



**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
Accessibility of User Interfaces, and) MB Docket No. 12-108
Video Programming Guides and Menus)

**Reply Comments of the Carl and Ruth Shapiro Family
National Center for Accessible Media at WGBH (NCAM)**

Introduction

NCAM is pleased to offer these reply comments to the FCC in response to its Notice of Proposed Rulemaking regarding the Accessibility of User Interfaces and Video Programming Guides and Menus. This proceeding, as required under Sections 204 and 205 of the "21st Century Communications and Video Accessibility Act (CVAA)," follows on many years of innovative user interface design and development by media providers and hardware and software manufacturers and distributors alongside appropriate and pragmatic advocacy by people with disabilities and their representative organizations.

The crafting of the language of the CVAA took place under a combination of side-by-side proposals and joint negotiations with all relevant impacted parties involved. The establishment of the Video Programming Accessibility Advisory Committee by the FCC and its deliberations and subsequent reports also benefitted from joint and separate deliberations by the parties. Finally, as reflected in its NPRM, the FCC has requested assistance in clarifying the intent of the language of the CVAA, its letter as well as its spirit, as many matters were intentionally or inadvertently left for future decision-making, in both the CVAA and VPAAC reports. Comments and ex parte filings on this matter make it clear that clarifications and interpretations are necessary.

Background

The Carl and Ruth Shapiro Family National Center for Accessible Media at WGBH (NCAM) is division of Boston's public media leader and is an R&D facility designed to extend WGBH's previous media access efforts into new media and to further the uses of captioning and descriptive video in the home, classroom, workplace, and community. New venues for NCAM's inclusive R&D efforts include museums, theme parks, online media, mobile devices, in-flight entertainment, online learning, e-books and many other technologies and media. NCAM has been in the forefront of most standards activities related to the accessibility of all forms of media, including numerous SMPTE, CEA, ATSC, World Wide Web Consortium, and other open, ISO-certified proceedings.

NCAM's leadership was directly involved in the discussions leading up to the passage of the CVAA and provided expert advice and information to media industry and consumer representatives alike. NCAM's director, Larry Goldberg, was subsequently appointed co-chair (with Zenith's Wayne Luplow) of the Video Programming Accessibility Advisory Committee (VPAAC) which generated

a series of reports the FCC has relied upon for its CVAA-related rulemakings and NPRMs.

Considerations and Clarifications: Appropriate Functions, Playback, Safe Harbor, Flexibility and Innovation, Single Buttons, Eligibility, Commonality

The record under this proceeding has grown over time, with diverse opinions offered as to the applicability of sections 204 and 205 to various types of hardware, provided by various entities. These reply comments will focus only on the topics noted above.

Appropriate Functions

The CVAA uses this term to help guide the FCC as to which hardware functions should be made accessible to people who are blind or visually impaired. The VPAAC, with its time severely limited and without full consensus, put forward a suggestion of 11 functions, though none of the parties in the User Interface subcommittee intended the list to be either inclusive or exhaustive, but merely illustrative. Much debate ensued over such a list and the result was intended to help inform manufacturers and providers as to the need that the CVAA was written to address.

For the FCC to enshrine in its regulations now only those 11 functions is to bar the possibility of accessibility of new features that are introduced over the coming years, and even to force the hand of manufacturers in terms of what controls are offered. Only a few years ago, video-on-demand and digital video recording were introduced and became an essential feature offered by MVPDs to their subscribers. Dedicated buttons for these services are now on virtually every remote control provided and are relied upon for these income-producing and customer-pleasing features. What might be the VOD and DVR functions of tomorrow? Certainly the FCC cannot predict, and providers and consumers alike don't know which new features may become popular and which fall by the wayside. Even the use of such terms as "essential" and "appropriate" are likely to result in further confusion and certainly inconsistent accessibility across various products.

We recommend that developers and distributors of the navigation devices and digital apparatus determined to be covered by the CVAA make these decisions via a formal or informal process informed by user input, with examination of specific devices and not just generic and general opinions. As in other sections of CVAA rules, advice from users with disabilities and experts in the field can guide these decisions, helping arrive at a collection of accessible controls that are indeed deemed essential by the users and providers alike. This process can also help clarify what the rules should be when a product doesn't include the function that is supposed to be made accessible.

"Playback"

One of the 11 "essential functions" listed in the NPRM is "playback." In order to cause a stored or live program to play, quite a few steps are likely to be needed, some of which may be on the list of 11, and some which may not. This is an example where relying on a generic list can easily lead to the development of a device which, while intended to be accessible according to the letter of the law, cannot in fact be operated by a blind customer. Recognizing that the law clearly stated that the FCC would not develop or impose standards for device UI accessibility, guidance is needed. The "play" button in fact might be one of the functions made audible, by any number of ways, but if the surrounding necessary functions to make "play" meaningful aren't included in

the design of an accessible UI, having the word "play" spoken out loud, out of context, may result in an inaccessible UI despite best intentions. Again, gathering user and expert feedback and input during the development process will help avoid such missteps, especially if the "rule of 11" is not determined as fixed and final.

"Safe Harbor"

As noted above, locking in 11 accessible functions as the basic minimum (or maximum) required effort is likely to be unsatisfying to provider and consumer alike. Though creating such a safe harbor could help guide implementations, it also denies flexibility to all parties of these regulations. A safe harbor is only likely to be found if evolving functionalities and interfaces are subjected to the examination and analysis of appropriate helpful parties.

Flexibility and Innovation

Comments from all sides of these proposed rules have argued for flexibility, so that innovation can be allowed to flourish in the home media environment. We agree, and suggest that both consumers and providers consider that command and control approaches have changed dramatically over the past few years and that options for easier and better ways of assuring access be considered as they arise. Gestural interfaces, made popular in Apple's iDevices, have become widely adopted by sighted and blind users alike. Voice command can work for many, but not all. The next generation iOS will include control via slight head movements - is eye gaze control next? Most remote controls today don't include full QWERTY keyboards, but they may in the future and that may become a valuable tool for accessible navigation. When adopting its rules, the FCC should recognize that flexibility and innovation can serve all sides in this debate, and that implementation of innovative approaches should, as stated above, be subject to reliable, diverse and timely input from end users.

Single Buttons

There has been much debate and discussion over the years following the DTV transition and leading up to the passage of the CVAA, regarding how difficult it can be to turn on and adjust closed captions and video descriptions on set-top boxes and other television devices. The "single button" or "equivalent" control provision was driven by such interface experiences as the need to power down a set-top box, press and hold a menu button to bring up a firmware menu, navigate through a set-up menu designed for installers, find the caption control, then power down and up again to see the result. So it is understandable that caption users have argued strenuously for an explicit single button, tangible and tactile. Video description users have been caught in their own morass, with controls buried as many as six menu levels down, with no audible feedback.

Manufacturers and providers have heard the complaints and have received the message. Implementation of a better collection of direct user controls will be varied, some better and some worse, but in deciding whether to require a physical button, allow software control, or direct the design of a function "equal to the volume control," the FCC should keep in mind what led to this provision being included in the CVAA. And consumers should keep in mind that, quite often hearing and sighted users are just as frustrated by poor user interface design, so reliance on an "equivalence" requirement could result in captioning and video description

controls that are just as frustrating, just equally so with every other user. A higher standard and examination of the law's intent should apply when deciding how to resolve this requirement.

Eligibility

One commenter from the media industry suggested that the provision of accessible navigation devices by blind or visually impaired customers should be accompanied by proof that the user actually needs such a device. We strongly object to any such provision being included in the FCC's rules. Not only would the paperwork and compliance burden be significant to user and provider alike, such a requirement would result in the homes of friends, families, hotels and institutions being excluded from incorporating accessible devices into their spaces.

Commonality

While the CVAA made clear that one single approach or standard for device and menu and guide accessibility would not be determined by the FCC, those covered by these rules should keep in mind that, while competition and market differentiation can often serve consumers seeking better products, when the users of newly accessible devices have to figure out a new and different user interface for every applicable product in their homes, the homes of their families and friends and wherever they visit, some commonality would benefit all. Though very likely a voluntary industry effort and not an FCC requirement, a set of common and translatable approaches should be considered, to reduce confusion, complexity and customer support burdens. Cooperative trade associations, consumer groups and organizations with expertise in this field can be brought into a process that can aid in the implementation of better and more coherent solutions, with innovation supported and encouraged.

Summary

The FCC can serve industry and consumers alike by keeping in mind the history and driving forces behind the CVAA while remaining cognizant of the rapidly evolving nature of consumer electronics and user interface design. By adopting rules which ensure that not only will covered devices be accessible according to user needs on day one of the new rules, but will improve on each subsequent release, the FCC can meet Congressional intent and the needs of all stakeholders.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry Goldberg". The signature is fluid and cursive, with the first name "Larry" and last name "Goldberg" clearly distinguishable.

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